

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/002754

**A. CLASSIFICATION OF SUBJECT MATTER**  
H04L12/46

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, COMPENDEX, INSPEC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 2004/047320 A1 (EGLIN MATTHEW GEORGE) 11 March 2004 (2004-03-11) abstract; figures 1,2A,3A,3B,5  paragraphs '0026! - '0029! paragraphs '0035! - '0037! -----	1-6, 10-14,18 7,15,21, 22
X Y	US 2003/142672 A1 (CHEN WEIPIN ET AL) 31 July 2003 (2003-07-31) abstract; figure 3 paragraph '0015!  ----- -/--	1-6, 10-14,18  7,15,21, 22

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

14 February 2006

Date of mailing of the international search report

22.02.06

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel: (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

de la Peña, J

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/091795 A1 (YIP MICHAEL) 11 July 2002 (2002-07-11)  abstract; figure 1	1-6, 8-14, 16-20
Y	paragraphs '0010!, '0022! - '0035!  -----	7,15,21, 22
X	US 2002/101870 A1 (CHASE CHRISTOPHER J ET AL) 1 August 2002 (2002-08-01) abstract; figure 4	1-6, 10-14,18 7,15,21, 22
Y	paragraphs '0019!; '0020!, '0022! paragraphs '0024!, '0026!, '0030!  -----	
Y	MELSEN S BLAKE ERICSSON T: "MAC Forced Forwarding: An ARP proxy method for ensuring traffic separation between hosts sharing an Ethernet access network" IETF STANDARD-WORKING-DRAFT, INTERNET ENGINEERING TASK FORCE, IETF, CH, no. 1, February 2004 (2004-02), XP015032433 ISSN: 0000-0004 sections 1, 1.2, 4.2, 4.3  -----	21,22
Y	WO 02/100062 A (NOKIA CORPORATION; EDNEY, JONATHAN; HAVERINEN, HENRY) 12 December 2002 (2002-12-12) page 6, lines 11-20 page 20, lines 12-23  -----	21,22
Y	US 6 614 787 B1 (JAIN VIPIN KUMAR ET AL) 2 September 2003 (2003-09-02) column 7, line 55 - column 9, line 12  -----	7,15

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International application No.  
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### Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7,10-15,18

A method, a VLAN Mapping Point and a method wherein it is performed a determination of the VLAN tags of the end users in the first VLAN region to whom a downstream traffic packet should be sent.

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2. claims: 8,9,16,17,19,20

A method and a VLAN Mapping Point wherein the second VLAN region is an aggregation network connecting a Layer 2 termination point to the VLAN Mapping Point.

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3. claims: 21,22

A method wherein upstream traffic from multiple end users is separated by means of an ARP proxy function in an access node.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/002754

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2004047320	A1	11-03-2004	AU 2003229425 A1 WO 2004023724 A1 CA 2498053 A1 CN 1701563 A EP 1537703 A1 JP 2005538585 T	29-03-2004 18-03-2004 18-03-2004 23-11-2005 08-06-2005 15-12-2005
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US 6614787	B1	02-09-2003	NONE	